

LUC-421/Nealon 2  
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### **In The Claims**

Please amend the claims as follows.

1. (currently amended) A method for using asynchronous transfer mode adaptation layer 2 (AAL2) switching within a wireless access gateway, comprising the steps of:

providing AAL2 channel identifier (CID) switching in a the wireless access gateway, the wireless access gateway having a plurality of transcoders, the plurality of transcoders having a subset of transcoders that are available transcoders;

allocating individual CIDs to transcoder channels on an as needed basis without a fixed relationship between external permanent virtual circuit (PVCs) and transcoder channels;

switching a call to any one respective transcoder of available transcoders; and

transcoding the call from a first format to a second format in the respective transcoder;

and

establishing an even distribution of calls among the transcoders for an uneven call load on the external PVCs;

wherein a single packet switch control is operatively connected to the external PVCs and the transcoders for allocating the individual CIDs to the transcoder channels on an as needed basis, and wherein the single packet switch control effects switching of individual packets from the external PVCs and to internal PVCs that allows for an even distribution of load among the transcoders even if a load on the external PVCs is uneven.

2. (original) The method according to claim 1, wherein the switching of the call to any one respective transcoder of available transcoders is a function of at least one predetermined parameter, and wherein the at least one predetermined parameter comprises at least one of a state of each respective transcoder, and a current load on the plurality of transcoders.

3. (original) The method according to claim 1, wherein the switching of the call to any one respective transcoder of available transcoders is on an as needed basis.

4. (currently amended) A method for using asynchronous transfer mode adaptation layer 2 (AAL2) switching within a wireless access gateway, comprising the steps of:

terminating a plurality of external AAL2 permanent virtual circuit (PVCs) at an intermediate node;

setting up a set of internal AAL2 PVCs between the intermediate node and a set of transcoders that form a plurality of digital signal processor (DSP) channels;

allocating a respective DSP channel, of the plurality of DSP channels for a call as a function of at least one predetermined parameter; and

instructing the intermediate node to switch individual AAL TYPE 2 common part sublayer (CPS)-packets of a new call from an external AAL2 PVC of the plurality of external AAL2 PVCs to an internal AAL2 PVC of the set of internal AAL2 PVCs; and

wherein a even distribution of calls among the transcoders is established for an uneven call load on the external AAL2 PVCs;

wherein a single packet switch control is operatively connected to the intermediate node, the external AAL2 PVCs and the transcoders for allocating individual channel identifiers (CIDs) to the DSP channels on an as needed basis; and

wherein the single packet switch control effects switching of individual packets from the external AAL2 PVCs and to internal AAL2 PVCs that allows for an even distribution of load among the transcoders even if a load on the external AAL2 PVCs is uneven; and

wherein packets are switched on a per call basis at a AAL2 common part sublayer (CPS) ~~CPS (common part sublayer)~~ layer, and wherein a AAL2 Service Specific Convergence Sublayer (SSCS) ~~SSCS (Service Specific Convergence Sublayer)~~ layer is terminated on a per call basis at a respective transcoder.

5. (previously amended) The method according to claim 4, wherein the at least one predetermined parameter comprises at least one of a state of the transcoders, a current load on the transcoders, and a state of the internal AAL2 PVCs.

6. (currently amended) The method according to claim 4, wherein instructing the intermediate node to switch the individual AAL TYPE 2 CPS ~~(common part sublayer)~~ packets of the new call from the external AAL2 PVC of the plurality of external AAL2 PVCs to the internal AAL2 PVC of the set of internal AAL2 PVCs at the CPS ~~(common part sublayer)~~ layer of AAL2 on an as needed basis.

7. (currently amended) A method for using asynchronous transfer mode adaptation layer 2 (AAL2) switching within a wireless access gateway, comprising the steps of:

providing AAL2 channel identifier (CID) switching in the wireless access gateway, the wireless access gateway having a plurality of digital signal processors (DSPs) acting as transcoders for digital representation of speech;

allocating individual CIDs to transcoder channels on an as needed basis without a fixed relationship between external permanent virtual circuits (PVCs) and transcoder channels;

switching individual packets of a call to any one respective DSP of available DSPs, the available DSPs being a subset of the plurality of DSPs; and

transcoding the packets of the call in the respective DSP from a first encoding to a second encoding; and

establishing an even distribution of calls among the DSPs for an uneven call load on the external PVCs;

wherein a single packet switch control is operatively connected to the external PVCs and the DSPs for allocating the individual CIDs to the transcoder channels on an as needed basis; and

wherein the single packet switch control effects switching of individual packets from the external PVCs and to internal PVCs that allows for an even distribution of load among the DSPs ~~transcoders~~ even if a load on the external PVCs is uneven; and

wherein packets are switched on a per call basis at a AAL2 common part sublayer (CPS) ~~CPS (common part sublayer)~~ layer, and wherein a AAL2 Service Specific Convergence Sublayer (SSCS) ~~SSCS (Service Specific Convergence Sublayer)~~ layer is terminated on a per call basis at a respective DSP.

8. (previously amended) The method according to claim 7, wherein the switching of individual packets to any one respective DSP of available DSPs is a function of at least one predetermined parameter, and wherein the at least one predetermined parameter comprises at least one of a state of the each of the DSPs, and a current load on the plurality of DSPs.

9. (original) The method according to claim 7, wherein the switching of individual calls to any one respective DSP of available DSPs is on an as needed basis.

10. (currently amended) A method for using asynchronous transfer mode adaptation layer 2 (AAL2) switching within a wireless access gateway, comprising the steps of:

allocating individual channel identifiers (CIDs) to transcoder channels on an as needed basis without a fixed relationship between external permanent virtual circuits (PVCs) and transcoder channels;

transcoding a call in a respective transcoder channel from a first format to a second format; and

establishing an even distribution of calls among transcoders for an uneven call load on the external PVCs;

wherein a single packet switch control is operatively connected to the external PVCs and the transcoders for allocating the individual CIDs to the transcoder channels on an as needed basis, and wherein the single packet switch control effects switching of individual packets from

the external PVCs and to internal PVCs that allows for an even distribution of load among the transcoders even if a load on the external PVCs is uneven;

and wherein packets are switched on a per call basis at a AAL2 common part sublayer (~~CPS~~) ~~CPS (common part sublayer)~~ layer, and wherein a AAL2 Service Specific Convergence Sublayer (~~SSCS~~) ~~SSCS (Service Specific Convergence Sublayer)~~ layer is terminated on a per call basis at a respective transcoder node.

11. (previously amended) The method according to claim 10, wherein the allocating of the individual CIDs to the transcoder channels is a function of at least one predetermined parameter, and wherein the at least one predetermined parameter comprises at least one of a state of the each of the transcoders, and a current load on all of the transcoders.

12. (currently amended) A system for using asynchronous transfer mode adaptation layer 2 (AAL2) switching within a wireless access gateway, comprising:

- a plurality of external AAL2 permanent virtual circuit (PVCs);
- a plurality of internal AAL2 PVCs;
- a plurality of transcoders;
- at least one intermediate node operatively connected to the external AAL2 PVCs and to the internal AAL2 PVCs;
- a single packet switch control operatively connected to the at least one intermediate node, the plurality of internal AAL2 PVCs and the transcoders; and

wherein based upon an algorithm that takes into account at least a current state of each of the transcoders and a current load of all of the transcoders, the single packet switch control instructs the at least one intermediate node to switch individual AAL2 common part sublayer (CPS)-Packets from the external AAL2 PVCs to the internal AAL2 PVCs; and

wherein an even distribution of calls among the transcoders is established for an uneven call load on the external AAL2 PVCs;

wherein a the single packet switch control is operatively connected to the at least one intermediate node, the internal AAL2 PVCs and the transcoders for allocating individual channel identifiers (CIDs) to transcoder channels on an as needed basis, and

wherein the single packet switch control effects switching of individual packets from the external AAL2 PVCs and to internal AAL2 PVCs that allows for an even distribution of load among the transcoders even if a load on the external AAL2 PVCs is uneven;

and wherein packets are switched on a per call basis at a AAL2 common part sublayer (CPS) ~~CPS (common part sublayer)~~ layer, and wherein a AAL2 Service Specific Convergence Sublayer (SSCS) ~~SSCS (Service Specific Convergence Sublayer)~~ layer is terminated on a per call basis at a respective transcoder.

13. (currently amended) A method for using asynchronous transfer mode adaptation layer 2 (AAL2) switching within a wireless access gateway, comprising the steps of:

providing AAL2 channel identifier (CID) switching in the wireless access gateway, the wireless access gateway having a plurality of digital signal processors (DSPs) acting as transcoders for digital representation of speech;

allocating individual CIDs to transcoder channels on an as needed basis without a fixed relationship between external permanent virtual circuit (PVCs) and the transcoder channels;

switching individual digital representations of speech of a call to any one respective DSP of available DSPs, the available DSPs being a subset of the plurality of DSPs; and

transcoding the digital representations of speech of the call in the respective DSP from a first encoding to a second encoding; and

establishing an even distribution of calls among the transcoders for an uneven call load on the external PVCs;

wherein a single packet switch control is operatively connected to the external PVCs and the DSPs for allocating individual CIDs to the transcoder channels on an as needed basis, and

wherein the single packet switch control effects switching of individual packets from the external PVCs and to internal PVCs that allows for an even distribution of load among the DSPs even if a load on the external PVCs is uneven;

and wherein packets are switched on a per call basis at a AAL2 common part sublayer (CPS) ~~CPS (common part sublayer)~~ layer, and wherein a AAL2 Service Specific Convergence Sublayer (SSCS) ~~SSCS (Service Specific Convergence Sublayer)~~ layer is terminated on a per call basis at a respective DSPs.

14. (original) The method according to claim 13, wherein the switching of individual digital representations of speech to any one respective DSP of available DSPs is a function of at least one predetermined parameter, and wherein the at least one predetermined parameter comprises at least one of a state of the each of the DSPs, and a usage level of the DSPs.



15. (cancelled)